Chapter 7

ASSESS

EW operators constantly evaluate the effectiveness of EA missions and report this information to the supported unit. The supported unit in turn incorporates these EA effectiveness reports into their combat assessment of the targeting effort. The combat assessment is the final function in the targeting process. The assessment represents the staff's determination of the effects of fires (lethal and nonlethal) on the enemy and whether these effects are accomplishing the commander's targeting objectives. The combat assessment forms the basis for the staff's reattack recommendations to the commander and future weapon system selection and employment. Assessing EA begins with the operators.

OPERATOR EVALUATION

7-1. It is important for the operator to evaluate EA effectiveness based upon the desired effects contained in the attack guidance. This technique provides the operator with a quantifiable measure of EA effectiveness. The use of percentages or other numerical formulas at the operator level are not accurate and add little to the assessment of EA effectiveness on the battlefield. The EA system operator and operators of the supporting ES systems execute the following steps to evaluate the effectiveness of EA missions.

RECORD JAMMING EFFECTIVENESS

7-2. During jamming missions, ES operators monitor the target to determine if the jamming is overpowering the signal to the receiver and affecting the target operator's ability to communicate.

RECORD EFFECTS ON THE TARGET SIGNAL

7-3. This is particularly important when attacking targets such as encrypted voice and data networks. EA and ES operators cannot access or exploit the internals of these communications systems and must judge the effects of jamming on the signal itself. Understanding the effects of the jamming signal on the target signal is also important when using EA and ES operators that are untrained in the target language. If the jamming is overpowering the signal, then the ES system will hear the noise of the EA system override that of the target transmitting station. The operator will also see a "spike" on the oscilloscope when the EA system signal is active. If these indicators occur, then the EA operator can assume the attack is effectively disrupting the target's ability to communicate.

RECORD OPERATOR COMMENTS

7-4. Listen for operator comments about difficulty communicating or executing operations. Phrases such as "I can't hear you, say again," "we are being jammed," and "repeat all after" indicate that the jamming power and technique are disrupting communications. Record instances where the operator repeats movement instructions, firing data, and situation reports. Note incidents where operators do not acknowledge a transmission and messages or give contradictory acknowledgments. An example of a contradictory acknowledgement would be when the operator confirms "assembly area Bravo" when the original message was "assembly area Golf." Additionally, the operator should listen for changes in attitude, rate of speech, and use of obscenities that reflect the operator's emotional response to the effects of EA. Operator comments provide important information about the EA technique employed and whether the EA mission achieved the targeting objective.

RECORD COUNTERMEASURES TO JAMMING

7-5. The ability of the operator to recognize and react to EA varies based on his training, experience, and discipline. An inexperienced operator may attribute the noise or broken communications to nature or equipment rather than to EA. This type of operator will attempt to work through the EA rather than to take countermeasures such as switching to an alternate frequency or mode of communications. The more experienced and trained operator will recognize EA and initiate some form of countermeasure to defeat or minimize the effects of EA. Noting how long it takes the operator to recognize EA and to take action are important pieces of information for future EA mission on the target or similar targets.

DETERMINE JAMMING EFFECTIVENESS

7-6. The level of accuracy in this subjective evaluation depends upon the training and experience of the EA operator. The assessment begins with the operator reviewing the EA guidance contained in the tasking message or OPORD. The operator considers the jamming mission successful if the mission occurred on time, against the correct target, and achieved the desired EA targeting effect.

REPORT JAMMING EFFECTIVENESS

7-7. The EA operator provides a JER to the TA team, which in turn compiles these reports into a MAER for the SIGINT team that addresses the effectiveness of the mission. The SIGINT team will forward this information in a signal summary (SIGSUM) to the EWO for MEA. This report gives details on the target, target reaction, and techniques employed. This report is not only a report on the effectiveness of jamming but also on the effectiveness of the particular techniques against a target type. Targeting and planning personnel use this information to ensure EA assets are employed to their fullest potential against appropriate targets.

REPORT DECEPTION EFFECTIVENESS

7-8. Assessing the effectiveness of deception occurs at the ACE as they fuse intelligence to discern the threat's reaction to the deception operation. Deception assessment occurs seldomly at the operator level. Indicators for operators of a successful deception operation are threat forces attempting to communicate, to gather data, and to coordinate movement if using imitative deception. (See Appendix D for more information on electronic deception.)

UNIT COMBAT ASSESSMENT

7-9. The unit staff builds the combat assessment from BDA and MEA. BDA describes the effects of targeting (lethal and nonlethal fires) on the target and forms the basis for reattack recommendations. MEA addresses the effectiveness of munitions, weapons systems, and tactics. Together, BDA and MEA help the unit understand the impact of the current FS plan on the threat and improve the targeting effort in future operations.

BATTLE DAMAGE ASSESSMENT

7-10. The G2 is primarily responsible for developing the BDA within the unit staff. During DECIDE, the G2 assists the commander in setting BDA requirements for HPTs. The G2 incorporates these BDA-related PIR into the collection plan and orders to subordinate units. This supports the timely collection and reporting of BDA information to the G2. For EA missions, this ensures ES systems are tasked to collect and report on the effectiveness of EA missions.

7-11. In addition to intelligence reports and operator evaluation, the G2 also uses target development and FS planning products to develop the BDA. The DECIDE phase products provide the G2 with the target descriptions, attack rationale, and desired effects that the targeting team used to develop the HPTL and concept of fires. The G2 should refer to the following documents during BDA development. The staff should also update these and other documents (for example, situation template, target synchronization matrix, collection plan, and FS plan) based on the results of the BDA.

- Concept of fires provides the task, purpose, method, and desired effects required to support the commander's scheme of maneuver.
- HPTL provides a mechanism for prioritizing the analysis effort with the targeting priorities. The EA effectiveness report should include the target number to assist in associating reports to targets.
- Target spreadsheet provides the analytic yardstick for comparing the desired effect contained in the concept of fires and HPLT with the actual effects. In the case of EA targets, situation templates reflecting the threat EOB and critical nodes should be present in the spreadsheet or as a separate electronic preparation of the battlefield product.

7-12. With the raw data such as the EA effectiveness report and reference material in hand, the G2 begins the task of sorting and analyzing the data to develop an all-source intelligence BDA of the effects on the target. To further aid in this task, each BDA is broken down into three components. Each component allows the G2 to scrutinize and record the effects on the target

from a number of perspectives. These three different assessments also require different sensors, analytical elements, and timelines. They are not necessarily subcomponents of each BDA report. The four components are physical damage assessment (PDA), functional damage assessment (FDA), target system assessment (TSA), and MEA.

Physical Damage Assessment

7-13. PDA estimates the quantitative extent of physical damage through munition blast, fragmentation, and/or fire damage effects to a target. This assessment is based on observed or interpreted damage. While EA is not traditionally thought of as physical damage, the EWO can develop an immediate assessment of the effectiveness of EA through "observed or interpreted damage."

7-14. **Observed Damage.** Much like lethal fires, EA can be either observed or unobserved nonlethal fire. Observed EA requires an ES asset to "observe" or monitor the effects of the EA on the frequency of the system under attack. The EWO must identify EA targets requiring ES collection during the DECIDE function of the targeting process. If the requirement becomes a PIR, the collection manager will then request or task support for monitoring the EA target. The ES asset will then monitor the target and provide feedback to the EA asset on the effects of the attack. At the end of the EA mission, the EA and ES will send a MAER to the EWO and collection manager on the results of the mission.

7-15. **Interpreted Damage.** If an ES asset cannot monitor the EA mission, then the operator must interpret the effectiveness of the attack based on the asset's proximity to the target, ability to acquire the target, technical factors (for example, signal-to-noise ratios), and operator experience. The EA asset and SIGINT team cannot quantitatively interpret the effectiveness of unobserved EA. Unlike the physical signs of the effects of lethal fires, the effects of unobserved EA cannot be evaluated based on post-strike reconnaissance.

Functional Damage Assessment

7-16. The FDA estimates the degree of degradation caused by EA against the target compared to the operational objective established against the target. This assessment is inferred on the basis of all-source intelligence and includes an estimate of the time needed to replace the target function. An FDA is a temporary assessment (compared to TSA) used for specific missions.

Target System Assessment

7-17. The TSA is a broad assessment of the overall impact and effectiveness of all types of attack against an entire target system's capability (for example, threat air defense systems). It may also be applied against threat unit combat effectiveness. A TSA may also look at subdivisions of the system compared to the commander's stated operational objectives. It is a relatively permanent assessment (compared to an FDA) that will be used for more than one mission.

Munitions Effects Assessment

7-18. The FS staff (or G3/S3 through the targeting team in accordance with FM 6-20-10) is responsible for developing the MEA concurrently and collaboratively with the BDA. For EA systems, the team depends upon the information in the EA effectiveness report to determine the effectiveness of the EA system against a particular target. The assessment forms the basis of recommendations for changes to increase the effectiveness of the following:

- EA tactics (system selection, positioning, deployment, and redeployment).
- EA techniques (spot jamming, imitative deception, intrusion).
- EA procedures (tasking and reporting channels, ES and EA system tip-off, technical data).
- EA systems (system capability, operator qualifications, mobility).

REATTACK RECOMMENDATION

7-19. Based on the BDA, the staff determines if the targeting objectives were met and if reattack is necessary. MEA helps the staff to select the best weapon system to execute the reattack. Both BDA and MEA give the staff the information needed to develop a complete reattack recommendation for the commander. In some cases, BDA and MEA may indicate that EA is not capable of meeting the targeting objective. The combat assessment process allows the staff to—

- Recognize that shortcoming in the FS plan.
- Select an alternate weapon system (lethal or nonlethal).
- Reattack the target.
- Achieve the targeting and operational objectives. (See Joint Publication 2-01.1 and FM 6-20-10 for more information on combat assessment.)

7-20. See Appendixes E, F, and G for more information on target reports, DS, and military operations on urbanized terrain (MOUT).